Atlantic Sturgeon Bycatch Working Group

Atlantic States Marine Fisheries Commission

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Introduction: Final "Batched" Biological Opinion

- On May 27, 2021, NOAA Fisheries released its ESA section 7 Biological opinion considering the effects of authorization of eight federal fisheries management plans (FMP) under the Magnuson Stevens Fishery Conservation and Management Act (MSA), two interstate fishery management plans (ISFMP) under the Atlantic Coastal Fisheries Cooperative Management Act, and the implementation of the New England Fishery Management Council's Omnibus Essential Fish Habitat Amendment 2 on ESA-listed species and designated critical habitat.

- The Biological Opinion required NOAA Fisheries to convene a working group to:
  - Conduct a review of all available information pertaining to Atlantic sturgeon bycatch in **federal** large mesh gillnet fisheries;
  - Produce an Action Plan by May 27, 2022 which would reduce this bycatch by 2024; and
  - Include an evaluation of post-release mortality, including identification of needed information and a plan/timeline for acquiring and using this information

Atlantic Sturgeon Bycatch Working Group & Action Plan

- The Atlantic Sturgeon Bycatch Working Group was formed in order to meet these requirements
  - The first full meeting of the group, including state participants, occurred on February 14, 2022.
- The Action Plan was released online as a draft on May 26, 2022.
- A finalized Action Plan is planned for September.

Atlantic Sturgeon Bycatch Working Group & Action Plan

- Spencer Talmage, Greater Atlantic Regional Fisheries Office
- Cynthia Ferrio, Greater Atlantic Regional Fisheries Office
- Lynn Lankshear, Greater Atlantic Regional Fisheries Office
- Henry Milliken, Northeast Fisheries Science Center
- Jason Boucher, Northeast Fisheries Science Center
- Kim McKown, New York State Department of Environmental Conservation, Bureau of Marine Resources
- Heather Corbett, New Jersey Department of Environmental Protection, Marine Fisheries
- Ian Park, Delaware Division of Fish and Wildlife
- Rebecca Peters, Maine Department of Marine Resources
- Eric Schneider, Rhode Island Department of Environmental Management, Division of Marine Fisheries
- Jacque Benway, Connecticut Department of Energy and Environmental Protection, Marine Fisheries Program

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Action Plan - Overview

- What does the Action Plan do?
  1. Communicates the results of the review of all available information regarding Atlantic sturgeon bycatch and highlights information gaps
  2. Describes regulatory measures that the ASBWG recommends New England and Mid-Atlantic Fishery Management Councils consider in order to reduce bycatch by 2024
  3. Establishes a timeframe for development of such measures and further evaluation of post-release mortality
- What is in the Plan?
  - Description of Fisheries
  - Review of Available Information
  - Actionable Conclusions
  - Actions to Reduce Atlantic Sturgeon Bycatch in Federal Large-Mesh Gillnet Fisheries
  - Timelines

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Action Plan – Description of Fisheries

- The Action Plan is limited to consideration of the FMPs and ISFMPs evaluated in the 2021 Biological Opinion. These are:
  - American Lobster ISFMP
  - Atlantic Bluefish FMP
  - Atlantic Deep-Sea Red Crab FMP
  - Mackerel, Squid, and Butterfish FMP
  - Monkfish FMP
  - Northeast Multispecies FMP
  - Northeast Skate Complex FMP
  - Spiny Dogfish FMP
  - Summer Flounder, Scup, and Black Sea Bass FMP
  - Jonah Crab ISFMP

Action Plan – Information Review

- Information reviewed included:
  - peer-reviewed scientific papers,
  - available data from the Northeast Fisheries Observer Program database,
  - grant program reports,
  - workshop reports,
  - Northeast Fisheries Science Center model-derived estimates of Atlantic sturgeon bycatch, and
  - the 2017 Atlantic States Marine Fisheries Commission stock assessment.
- Topics explored by these sources included distribution and occurrence of Atlantic sturgeon, analysis of bycatch information, and bycatch mitigation
- These sources represent the known information available to the ASBWG

Actionable Conclusions from Information Review

- The ASBWG made the following conclusions based on its review:
  - Federal gillnet fisheries targeting monkfish, spiny dogfish, and Northeast multispecies with sink gillnet gear ranging from 5.5 to 12 inches in minimum mesh size are primary contributors to Atlantic sturgeon bycatch.
  - Low-profile gillnet designs with reduced net height, shorter tie-down length, and shorter tie-down spacing reduce Atlantic sturgeon bycatch, potentially without reduction in catch of target species.
  - Soak time is a likely driver of Atlantic sturgeon bycatch rates and mortality, based on available research and the simple concept that time spent by fishing gear in the water strongly correlates with the chances that the gear interacts with sturgeon.

Actionable Conclusions from Information Review Contd.

- Available research indicates that temperature and depth are primary drivers of Atlantic sturgeon movement and abundance.
  - In particular, sturgeon tend to occur in waters shallower than 50 m in depth and shallower than 25 m during seasonal coastal movements from marine waters to river estuaries in the spring and from river estuaries to marine waters in the fall.
  - Migratory pathways along the coast used by many sturgeon represent key areas of high abundance.
- Post-release mortality for Atlantic sturgeon is not well understood; only a small amount of information on the topic is currently available, and research that does exist is hampered by small sample sizes.

Recommended Actions

- The ASBWG recommends that fisheries managers consider three primary approaches to achieve bycatch reductions by 2024. These are:
  1. Modifications to gear,
  2. Modifications to fishing practices, and
  3. Consideration of areas of focus in regions where Atlantic sturgeon bycatch is most common

  These approaches, and the more specific measures recommended within them, are not mutually exclusive. Some combination of approaches could be implemented to balance desired bycatch reduction with the needs of affected fisheries.

Modifications to Gear

- The ASBWG recommends that the Councils consider requiring the use of low-profile gillnet gear by federally permitted vessels while:
  - Fishing under a monkfish DAS,
  - Participating in a large mesh exemption area w/ min mesh size of 10 inches, or
  - Fishing under a Northeast multispecies DAS in the Large Mesh DAS program
- The ASBWG considers a low-profile gillnet design to have:
  - Mesh size ranging from 12 to 13 inches,
  - Net height ranging from 6 to 8 meshes tall,
  - Tie-down length of 24 inches,
  - Tie-down spacing of 12 feet, and
  - Primary hanging ratio of 0.50.

Modifications to Gear Contd.

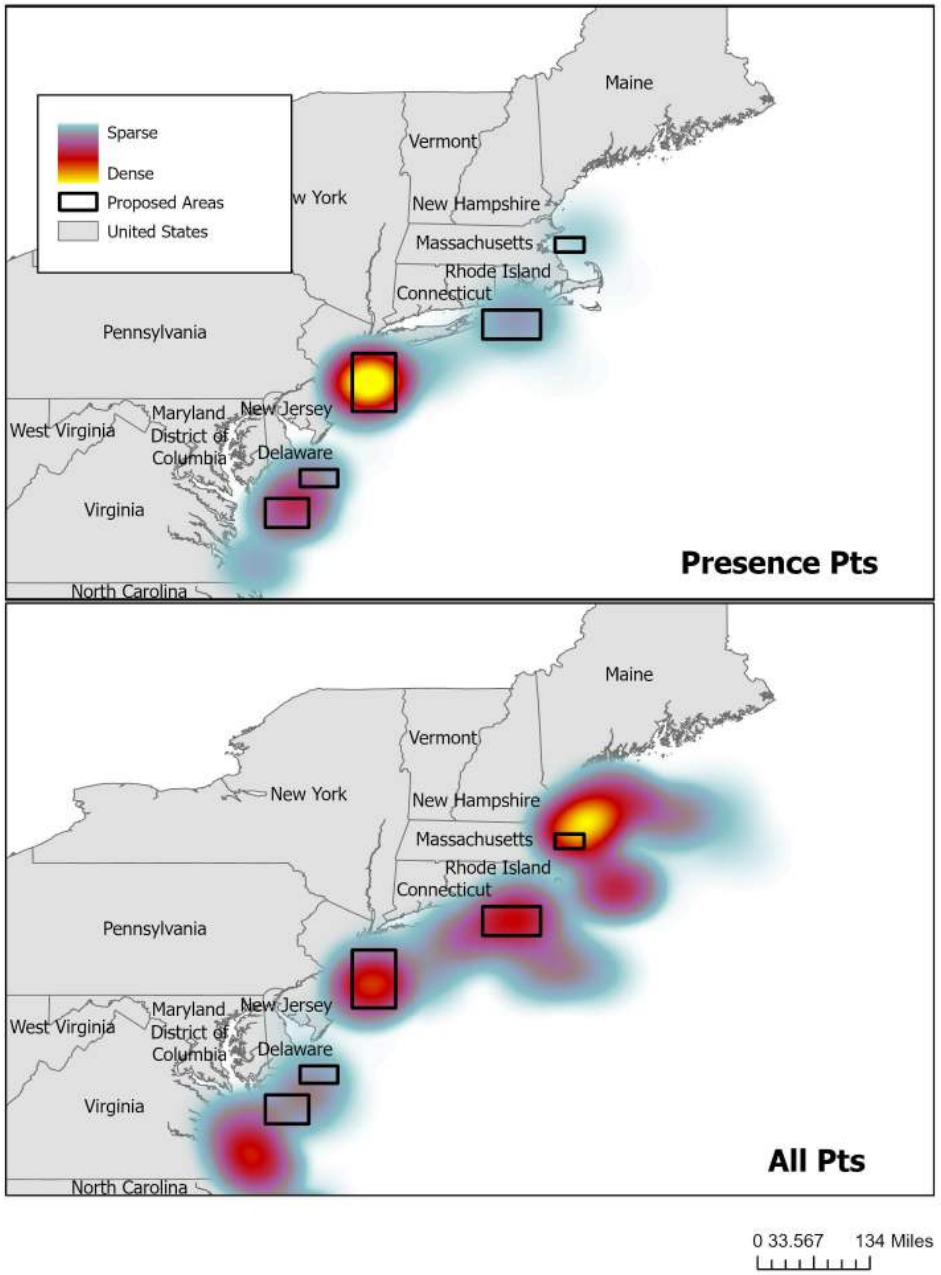
- The ASBWG notes the net used by Fox et al. 2019 with:
  - 13 inch mesh size
  - Net height of 8 meshes
  - 24 inch tie-down length
  - 12 foot tie-down spacing, and
  - 300 feet long, strings were 8 – 12 panels totaling 2,400 to 3,600 feet long
- This low-profile net design showed no significant reduction of monkfish catch by NJ based vessel. However, significant reduction in monkfish catch by NY vessel.
- Continued experimentation must be balanced with the need to implement meaningful bycatch reductions as soon as possible to meet conservation goals for Atlantic sturgeon.

Modifications to Fishing Practices

- The ASBWG recommends that the Councils consider measures to reduce the soak time of gillnets deployed by federally permitted fishing vessels
  - Fishing under a monkfish DAS,
  - Participating in a large mesh exemption area, or
  - Fishing under a Northeast multispecies DAS in the Large Mesh DAS program
- Soak time in the federal large mesh gillnet fisheries vary greatly across relevant fisheries due to regional differences in fishing practices and conditions
- Measures to reduce soak times may be particularly challenging
  - NMFS has explored the development of data loggers
  - Regulatory changes which do not require the use of loggers may also be possible.

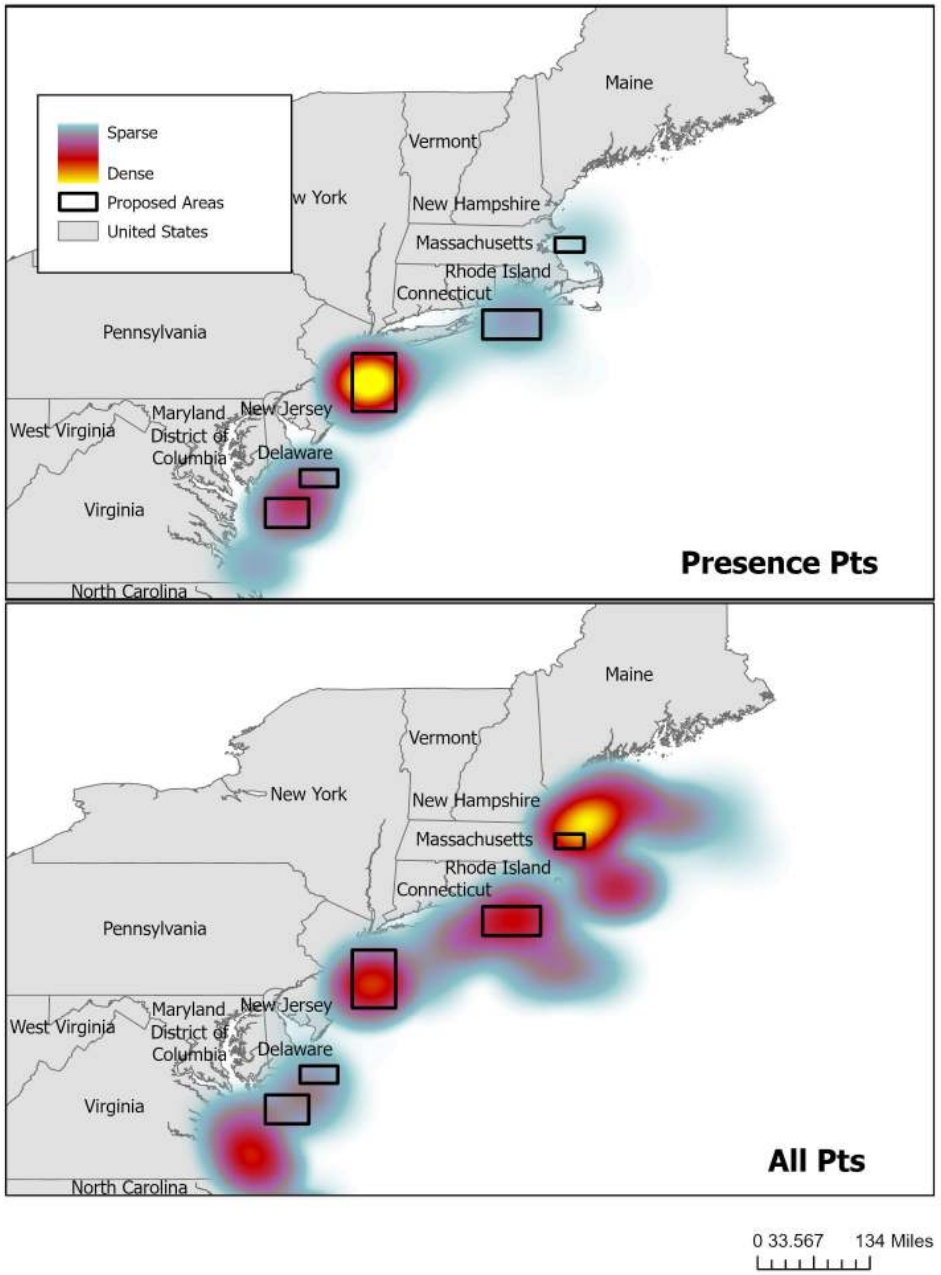
Areas of Focus

- Available observer data suggests high incidence of Atlantic sturgeon bycatch in gillnet fisheries in several distinct regions along the Atlantic coast, which roughly correspond to available examples from the literature review.



Areas of Focus

- The ASBWG recommends that the Councils consider small, focused, and potentially seasonal measures within the Areas of Focus identified as containing a high incidence of Atlantic Sturgeon Bycatch.
- It was noted that observer based Atlantic sturgeon bycatch data is strongly related to fishing effort; The ASBWG considered but ultimately discarded broad area based measures, based on the presumption of high negative impact to the fisheries involved.
- Further work is needed to evaluate trade-offs and potential impacts.



Post Release Mortality

- Understanding of post-release mortality of Atlantic sturgeon captured in gillnet gear is poor, and the only available information is a tagging study hampered by small sample size.
- The ASBWG recommends that the Councils, Atlantic States Marine Fisheries Commission, and NOAA Fisheries prioritize focus research in two subordinate categories:
  - Quantitative estimates of post-release mortality rates
  - Injury assessment for entangled sturgeon
- To inform development of these recommendations, the ASBWG studied the workshop-style approach used to develop technical guidelines for assessing injury of sea turtles which began in 2003.

Post Release Mortality Contd.

- The ASBWG recommends a two phased approach with three objectives:
  1. Develop protocols and criteria for the rapid visual assessment of live Atlantic sturgeon captured in gillnet and estimation of post release mortality;
  2. Facilitate information gathering of new data that quantifies post release mortality of sturgeon caught in gillnet gear; and
  3. Explore options for a citizen science program for gillnet fishermen to facilitate long term assessments of post-release mortality
- The first phase of this approach, led by NOAA Fisheries, should be to identify steps needed to acquire additional information to inform post-release mortality
- The second phase is for NOAA Fisheries, in collaboration with partners at the Councils and ASMFC to work collaboratively to carry out steps which were identified in the previous phase, and to produce technical guidelines for observers

Timeline for Action Plan and Development of Measures to Reduce Atlantic Sturgeon Bycatch in Gillnet Gear			
May 26, 2022	Draft Action Plan is released online		
June 7 – 9, 2022	Presentation at MAFMC Meeting		
June 28 – 30, 2022	Presentation at NEFMC		
August 1 – 4, 2022	Presentation at ASMFC Summer Meeting We Are Here		
September 2022	Finalized Action Plan is published online		
September 27 – 29, 2022	NEFMC 2023 Priorities Setting Process Begins		
October 4 – 6, 2022	Initial MAFMC Discussion of 2023 Implementation Plan		
December 6 – 8, 2022	NEFMC 2023 Priorities Set		
December 12 – 15, 2022	MAFMC 2023 Implementation Plan Finalized		
If Councils develop action under MSA		If NMFS develops action under ESA	
January – April 2023	Council Action Development - Background Work	January – November 2023	NMFS Develops Proposed Rule
April – September 2023	Council Action Development and Final Action	November 2023	Proposed Rule Published; 30-day public comment period
December 2023	Council Submission of Action	January – May 2024	NMFS Develops Final Rule
January – February 2024	NMFS Review and Publication of Proposed Rule	May 2024	NMFS publishes Final Rule and Implementation
March – May 2024	NMFS publishes Final Rule and Implementation		

Actions to Address Post Release Mortality from Gillnet Gear	
December 31, 2023	NMFS-led identification of the specific steps needed to acquire additional information to inform post-release mortality. Identify the steps and the participants needed to achieve each objective as well as the organization lead for each step (e.g., NMFS, NEFMC, MAFMC, ASMFC).
January 1, 2024 – December 31, 2025	Councils, ASMFC, and NMFS carry out steps to meet the three objectives using all opportunities within their authorities with regard to funding, permitting, and information gathering. NMFS will produce technical guidelines for NEFOP observers to make and record visual assessments of each Atlantic sturgeon captured in gillnet gear and released alive, and which will provide NMFS approach for assigning the likelihood of post-release mortality to each sturgeon based on the NEFOP observers visual assessment. Other: NMFS will provide an update on the progress made for each objective to the public as appropriate via normally scheduled meetings of the Councils and the ASMFC and other available means.
December 31, 2026	Other steps deemed necessary to meet Objective 2 and Objective 3 are completed by this time even if the research conducted for Objective 2 to better inform post-release mortality is on-going and/or the final results have not yet been published.

Questions?

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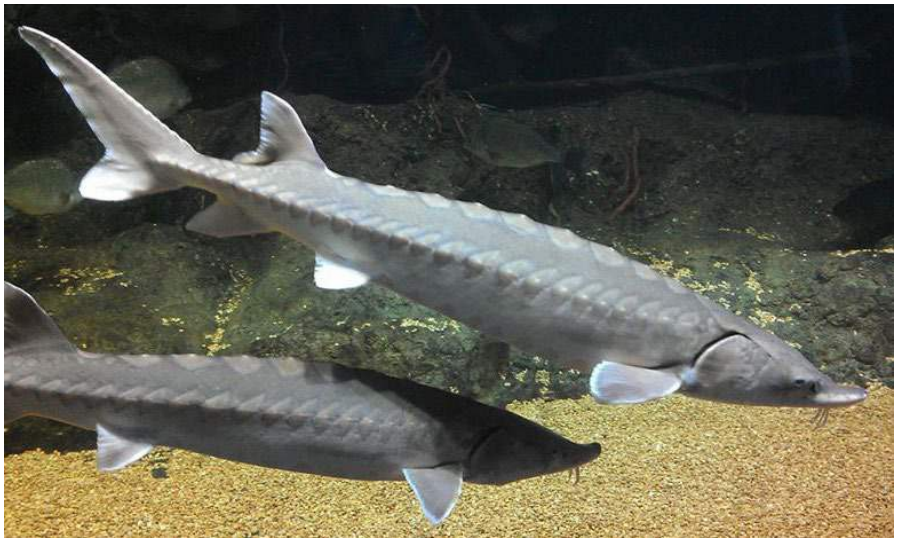

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